Before the
**FEDERAL COMMUNICATIONS COMMISSION**
Washington, D.C. 20554

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| **In the Matter of** | ) | |
| **Establishment of an Interference Temperature Metric to Quantify and Manage Interference and to Expand Available Unlicensed Operation in Certain Fixed, Mobile and Satellite Frequency Bands** | ) | **ET Docket No. 03-237** |

**TO: The Commission**

## REPLY COMMENTS OF PACIFICORP

Pursuant to section 1.415[1] of the rules of the Federal Communications Commission, ("Commission" or "FCC"), PacifiCorp respectfully submits its Reply Comments in the above-captioned proceeding in response to the FCC's Notice of Inquiry ("NOI") and Notice of Proposed Rulemaking ("NPRM") in ET Docket No. 03-237.[2]

As discussed in more detail below, three primary propositions have been made clear by the overwhelming comments in opposition to the FCC's proposals in this docket: (1)

[1] 47 C.F.R. § 1.415.

[2] *In re Establishment of an Interference Temperature Metric to Quantify and Manage Interference and to Expand Available Unlicensed Operation in Certain Fixed, Mobile and Satellite Frequency Bands*, ET Docket No. 03-237, FCC 03-289 (rel. Nov. 28, 2003); 69 Fed. Reg. 2863 (Jan. 21, 2004) (hereinafter, because of the bifurcation of this item, paragraphs 1 to 28 will be referred to as the NOI, while paragraph 28 to the end will be referred to as the NPRM).

implementation of the interference temperature concept is premature; (2) the critical nature of incumbent communications in the 6 GHz band renders this spectrum unsuitable for "experimentation" with interference concepts, and (3) the concept is not feasible in today's spectrum environment given current technology. PacifiCorp concurs with these comments, and respectfully urges the Commission to recognize that the interference temperature concept should not be implemented at this time, particularly in bands such as the 6 GHz microwave band relied upon by Critical Infrastructure Industry licensees.

## I. IMPLEMENTATION OF THE INTERFERENCE TEMPERATURE CONCEPT IS PREMATURE

The comments filed in this docket overwhelmingly opposed the FCC's proposal to implement an interference temperature metric. Diverse commenters including commercial cellular providers,[3] fixed microwave licensees,[4] satellite operators,[5] equipment manufacturers,[6] Public Safety entities,[7] and trade associations[8] found flaw with virtually every aspect of the FCC's proposal. One message is particularly clear: *implementation of the interference temperature concept is premature and ill-advised*.[9]

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[3] *See, e.g.*, Comments of Sprint; Comments of Verizon Wireless; Comments of AT&T Wireless; Comments of Cingular and BellSouth.

[4] *See, e.g.*, Comments of the Fixed Wireless Communications Coalition.

[5] *See, e.g.*, Comments of Commenters including Globalstar, ICO Global, Inmarsat, Intelsat Global, Lockheed Martin, Loral Space, New Skies, Northrup Grumman, Panamsat and SES Americom (Joint Satellite Comments).

[6] *See, e.g.*, Comments of Ericcson; Comments of Nokia; Comments of Motorola.

[7] *See, e.g.*, Comments of New York State Office for Technology Statewide Wireless Network.

[8] *See, e.g.*, Comments of the Telecommunications Industry Association (TIA); Cellular Telecommunications Industry Association (CTIA).

[9] *See*, Verizon Wireless Comments at 15; CTIA Comments at 15, Cingular/Bellsouth Comments at 44; Joint Satellite Comments at 1-2, Motorola at 5.

Verizon Wireless, for example, echoed PacifiCorp's initial comments in this docket, labeling the NPRM "premature as well as ill-advised."[10] Like PacifiCorp, Verizon Wireless further noted that the "nature of the questions posed in the NOI demonstrates that the Commission is exploring a purely theoretical concept at this time" and that "it is premature for the Commission to issue an NPRM here at the same time it adopts an NOI to shed light on whether the underlying theory is even technically feasible, let alone worthwhile."[11]

CTIA also agreed with this assessment, arguing that the FCC is still unclear on the viability of the overall interference temperature concept, and many basic questions must be resolved before moving forward, including: (i) how to determine whether systems with widely varying "protection" needs are compatible; (ii) who "should be parties to the process of setting" applicable interference temperature metrics; and (iii) how to "gauge the success" of the introduction of the interference temperature metric. These questions need well-reasoned answers before the Commission travels further down the path toward interference temperature implementation.[12] Cingular and BellSouth made similar arguments, asserting that the Commission is erroneously attempting to move forward with new rules even though it acknowledges that more analysis and research are necessary, and as a result, rather than bringing more clarity to the process of spectrum and interference management, the Commission is doing the opposite – making spectrum and interference management less predictable and less

[10] Comments of PacifiCorp ("PacifiCorp Comments"), Verizon Wireless at 4.

[11] Verizon Wireless at 19.

[12] CTIA at 15.

reasoned.[13] As PacifiCorp previously stated, as Commissioner Adelstein acknowledged, and as the comments demonstrate, implementation of this concept is premature.

## II. THE 6 GHZ BAND IS UNSUITABLE FOR "EXPERIMENTATION" WITH INTERFERENCE CONCEPTS

PacifiCorp concurs with the comments filed by Xcel Energy,[14] Idaho Power,[15] and the United Telecom Council,[16] who stated that the 6 GHz band is particularly ill-suited to serving as a "test bed" for the interference temperature concept due to the nature of the incumbent operations in this band. The interference temperature metric poses particular dangers for those bands employed by Critical Infrastructure Industry ("CII") licensees, including electric utilities. Accordingly, the FCC must abstain from promulgating any rules that would damage the integrity of CII communications.

As Idaho Power noted, all Western North American electric utilities' grids are synchronized to and are generally inseparable from the Western North American Power grid.[17] If unlicensed users are allowed operate in the 6 GHz band (or any other band relied upon by electric utilities) in a manner that raises the noise floor, the availability of circuits, including power line protection circuits carried by utility microwave systems, will decrease, potentially jeopardizing the integrity and stability of the entire power grid.[18] PacifiCorp also agrees with Xcel Energy's observation that the proposed interference temperature model creates substantial uncertainty regarding the protection critical utility communications can expect against harmful

[13] Cingular/BellSouth at 44.

[14] Comments of Xcel Energy Services, Inc. ("Xcel Energy Comments").

[15] Comments of Idaho Power ("Idaho Power Comments").

[16] Comments of United Telecom Council ("UTC Comments").

[17] Idaho Power Comments at 2.

[18] *Id.*

interference, and would likely degrade the performance of currently deployed systems.[19] These are consequences "that can ill be afforded in today's climate of heightened security and the increased reliance of modern life on the consistent, reliable availability of electricity."[20] Spectrum utilized by Critical Infrastructure entities should not be used to "experiment" with unlicensed devices. As UTC concisely summarized, the "interference temperature" approach is "still conceptual, and further study is necessary before it should be introduced in any band, *particularly* the 6 GHz band that critical infrastructure industries employ for microwave communications."[21]

## III. THE CONCEPT IS NOT TECHNOLOGICALLY FEASIBLE

Commenting manufacturers were also blunt in their criticism of the FCC's theory, stressing that much of the technology that the FCC envisions to support the interference temperature approach does not yet exist. Nokia, for example, warned the Commission to "avoid basing current regulation on potential future technological advancements."[22] The Telecommunications Industry Association ("TIA") was similarly critical, stating that "technology itself must not be depended on as a panacea to replacing sound spectrum management policy. Spectrum management decisions based on anticipated advances in technology are dangerous, and should await the demonstrable existence of such technology at reasonable costs for widespread deployment and market acceptance."[23] Moreover, manufacturers also recognized that there are a myriad of technical issues that must be confronted

[19] Xcel Energy Comments at 8.

[20] *Id.*

[21] UTC Comments at 1 (emphasis added).

[22] Comments of Nokia ("Nokia Comments").

[23] Comments of TIA at 3-4 ("TIA Comments").

and resolved prior to *any* implementation efforts. Motorola, for instance, provided extensive technical analysis on the FCC's proposals, and concluded that even the initial step in the interference temperature process – establishing a benchmark noise floor reading in an incumbent frequency band – would be "extremely problematic."[24]

TIA also noted the significant potential for interference to noise-limited radio systems if the noise floor were raised as a result of the interference temperature approach.[25] As Ericsson also stressed, interference temperature implementation could "undermine the safety, capacity needs, critical timing, quality, and reliability of licensed radio services by introducing regulatory and operational uncertainties."[26] It is clear, therefore, that there are significant technical hurdles that would have to be overcome before implementing the interference temperature concept, and particularly at 6 GHz or other bands used to support Critical Infrastructure.

## IV. CONCLUSION

For the foregoing reasons, PacifiCorp urges the Commission to abandon its plan for the immediate implement the interference temperature metric, and further recognize that the interference temperature approach must not be implemented in those bands relied upon by Critical Infrastructure Industry licensees, including the 6 GHz band. PacifiCorp respectfully

[24] Comments of Motorola at 8-10 ("Motorola Comments").

[25] TIA Comments at 4.

[26] Ericsson at 1.

requests the Commission consider these reply comments and proceed in a manner consistent with the views expressed herein.

Respectfully submitted,

**PACIFICORP**

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